

1 DECONSTRUCTING TRAUMA



“Childhood trauma turns a learning brain into a surviving brain.”

—Josh Arvidson, Director, Alaska Child Trauma Center

SUMMARY

High levels of toxic stress impact the development of children’s brain wiring, impairing their ability to regulate, or control, their emotions, thoughts and behaviors. Schools can help students learn self-regulation and can support positive brain development through a whole-school, whole-community approach.

In Our Schools: Sarah’s Story

Sarah is a 13-year-old middle school student with average grades. One day Sarah starts a food fight in her school cafeteria. The mess leads to a negative interaction with a lunchroom monitor, and Sarah is unable to calm down and control her frustrations.

COMMON PRACTICE

Sarah is suspended from school for three days. She falls behind in her work and feels angry and alienated from school.

TRANSFORMATIVE PRACTICE

An adult at the school who fostered a relationship with Sarah learned that Sarah recently found out her mother was going to jail. Sarah’s school has been incorporating knowledge of trauma’s impact on students and staff into their culture and practices. The adult reports the situation to school administrators, and the school develops a plan to promote accountability and help Sarah develop the skills she is missing. These steps include in-school suspension, support from a school counselor, outreach to Sarah’s family, and an opportunity for Sarah to repair relationships disrupted by her behavior in the cafeteria.

Key Research Findings

The brain goes through enormous development during childhood and adolescence in response to a person’s environment and experiences.

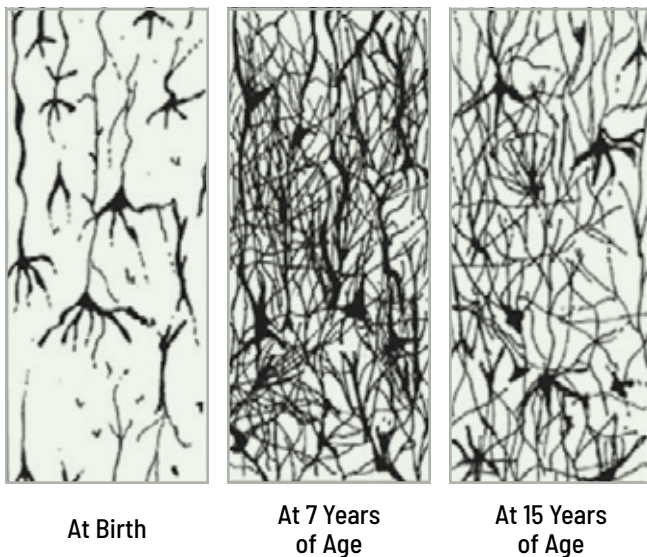
Understanding the biology of stress helps track the pathways from childhood stress to undesirable behaviors and outcomes, and gives us insight into how we might interrupt those pathways and reduce harmful impacts.

Childhood is a Key Time for Brain Development

Figure 3 represents the complexity of the brain's pathways at three stages of development. The early years generate immensely complex wiring in response to experiences. Around puberty a pruning occurs where the most frequently used pathways are hardened and those least used are discarded. Schools are in a position to reinforce positive brain development and significantly mitigate problematic pathways developed from early traumatic experiences.

It is possible to "rewire" the brain at any age, but it is easiest in childhood.

3. Brain Wiring Through Childhood

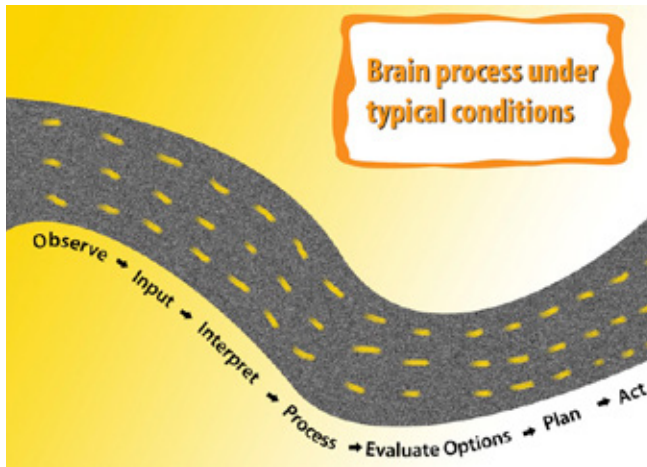


Source: Adapted from Corel, J.L. *The postnatal development of the human cerebral cortex*. Cambridge, MA: Harvard University Press; 1975.

The Center on the Developing Child at Harvard University describes three types of stress:

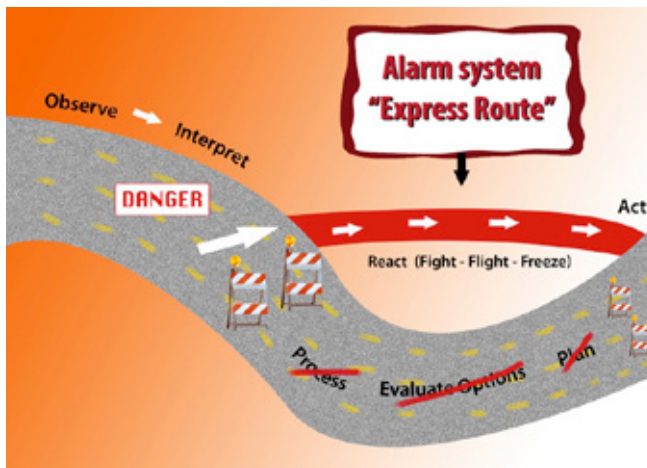
- ▶ **Positive stress response** is a normal and essential part of healthy development, characterized by brief increases in heart rate and mild elevations in hormone levels. For example, the first day at a new school might trigger this type of stress response.
- ▶ **Tolerable stress response** activates the body's alert systems to a greater degree as a result of more severe, longer-lasting stressors, such as the loss of a loved one, a natural disaster, or a frightening injury. If the activation is time-limited and buffered by relationships with adults who help the child adapt, the brain and other organs recover without lasting damage.
- ▶ **Toxic stress response** can occur when a child experiences strong, frequent or prolonged perceived threats or danger – such as physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence, or the accumulated burdens of family economic hardship – without adequate adult support. Prolonged activation of the stress response systems can disrupt the development of brain architecture and other organs, and increase the risk for stress-related disease and cognitive impairment.

4. Typical conditions

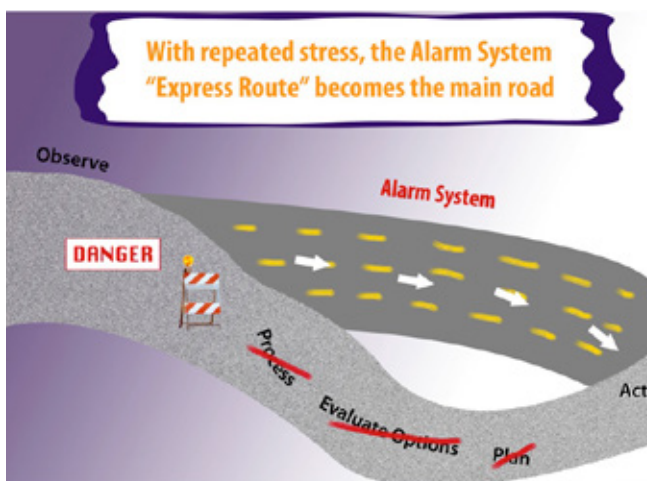


Graphics 4-6: Source: Arvidson, J, et al. 2011, *Trauma 101: Understanding Trauma in the Lives of Children and Adults*.

5. Alarm System



6. Express Route



Graphics 4-6 illustrate how repeated stress can lead to troublesome cognitive habits.

Under typical conditions, we move through our lives taking in the world, interpreting what we experience through our senses, processing and evaluating what we want to do, and finally planning and acting on all those inputs.

When we run into a stressor or potentially dangerous situation, our brain, which is constantly scanning for "trouble," switches to a stress response system. The more contemplative aspects of our usual response are cut out – and instead flight, fight or freeze responses are activated. These responses get us out of trouble fast, and are very effective for situations requiring immediate action.

When we are exposed to repeated or toxic levels of stress, the "express route" becomes the default response for most events. Being on this kind of alert in all settings inhibits thoughtful decision-making and hurts performance in school and in life.

When the developing brain is chronically stressed, it releases hormones that shrink the hippocampus, an area of the brain responsible for processing emotion and memory and managing stress. Recent studies suggest that increased exposure to adverse childhood experiences results in less gray matter in the brain, including the prefrontal cortex, an area related to decision-making and self-regulatory skills, and the amygdala, or fear-processing center.¹ In other words, childhood trauma may damage the developing brain, causing problems with learning, decision-making, and managing emotions

¹ Nakazawa, D.J. (2016) [7 Ways Childhood Adversity Changes a Child's Brain](#). ACEs Too High News.

There is hope. Just as negative experiences can harm the brain, positive interventions can help repair damaged neural pathways.² Active interventions can and do change the life course for individuals exposed to high childhood stress levels. A review of research literature points to **self-regulation**³ – or learning to control and regulate one’s emotions – as the key to mitigating the impacts of stress and trauma.

Schools Have a Key Role

Schools have a critical role in helping build and reinforce neural pathways that support resilience, good decision-making, positive relationships, and lifelong learning. Schools connect children to concepts about numbers, sorting and words, and help children understand how to interact with others and manage their own thoughts and feelings. The impacts of this foundational work stretch across a child’s lifetime.

How should schools approach this task? Surveys of Alaska secondary school students suggest some starting points. Alaska high school students who believe teachers care about them and that their schools have clear rules have better grades and participate less often in a host of dangerous activities. These findings support research on the importance of relationships and structure – in the form of clear, fair, and consistent rules – to help children manage and overcome the impacts of trauma and difficult experiences.⁴

Classroom Connection

Provide warm and responsive relationships in school to all students. This includes linking words and actions to unconditional positive regard for students.

The physical environment should be safe both physically and emotionally for students. Consistent, predictable routines as well as clear goals for behavior with well-defined logical consequences for negative behavior are essential.

Self-regulation skills should be a part of the school experience through modeling, instruction and opportunities to practice. Just like math skills, self-regulation skills take time to develop and strengthen.

To help children and youth develop and sustain self-regulation skills, adults need to understand trauma and model specific skills and interventions. Key skills for students and adults are self-awareness, accessing supportive relationships, and self-regulation amidst what can be a very demanding school day. Self-care, addressed in another chapter, is also critical.

This work is not easy given the many demands on teachers and school staff. There needs to be a structure of support and understanding within the broader school and community.

Trauma-Engaged Practice in Action: Sarah’s Story

The story at the start of this chapter illustrates that troubling in-school behaviors may have their origin in family stress. Sarah faces an overwhelming change to her family structure. Her mother’s impending incarceration is likely not the only difficulty Sarah has faced.

In an ideal world, Sarah would tell an adult, “I am very stressed and need help,” and adults in school would have the skills and time to help her. But Sarah doesn’t have the skill to take that step, and instead communicates through an outburst of inappropriate behavior.

As Sarah’s story shows, stress and trauma impact children’s ability to regulate their emotions and thoughts. This is true for adults too. Behavior is a form of communication and high levels of stress can overwhelm us. A trauma-engaged approach focuses on accountability and skill-building so Sarah can learn to manage her stress in a healthier way. Steps might include:

- ▶ **Let Sarah finish her school day in an alternative setting.** Rather than send Sarah out of school, provide a safe place for her to gain control of her emotions and assess what happened with a supportive adult. Use in-school suspension if suspension is warranted.
- ▶ **Offer a restorative approach for Sarah to make amends.** People whose behavior hurts others need an opportunity to repair broken or strained relationships. This provides accountability and prevents negative relationships from festering. In Sarah’s case, apologizing to cafeteria staff might be a starting point.

2 Hosier, D. (2013) *Recovery: How the Brain Can “Re-wire” Itself*. Childhood Trauma Recovery.

3 Murray, D.W., et al. (2016) *Self-Regulation and Toxic Stress Report 4: Implications for Programs and Practice*. OPRE Report # 2016-97, Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

4 Rosanbalm, K.D., & Murray, D.W. (2017) *Caregiver Co-regulation Across Development: A Practice Brief*. OPRE Brief #2017-80. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.



- ▶ **Contact a family member or supportive adult** to get information on Sarah's mother's sentencing. Working with Sarah's family will help the school support and augment what the family is doing.
- ▶ **Create a plan of support.** Make a plan Sarah can rely on to help her when feelings get overwhelming.
- ▶ **Model and teach self-regulation skills in the classroom and school.** Whole-classroom and whole-school approaches will support all students and adults, and build a more supportive and healthy community.

IDEAL OUTCOMES

Sarah gets the support she needs. While she still struggles she begins to learn to regulate her emotions and has a plan she can name to deal with strong emotions. Sarah spends more time learning because school feels like a safer environment and she is better able to control her response to stressors.

Suggested Steps

- 1. Assess your classroom or school's current discipline policies and practices.** Consider whether these practices promote accountability and help students repair relationships and improve self-regulation. [See chapters on Policy, Skill Building, and Professional Learning for more.]
- 2. Identify the supports and resources available to students in school.** If these resources are inadequate or underdeveloped, consider how they might be augmented. [See chapter on Support Services.]
- 3. Identify the supports and resources available within the community at large.** Consider engaging those that may not already be involved with the schools, or strengthening communication and collaboration with those that are already engaged. [See chapter on Cultural Integration and Community Co-creation.]
- 4. Share this information.** Change often begins with understanding. The more people understand that stress has real impacts on the brain, the more we can act with compassion and caring toward our students and each other. [See chapter on Professional Learning.]

Reflections

- ▶ How does the science of stress and brain development described in this chapter shed light on what you see in your schools?
- ▶ How do these policies and practices promote accountability and help students repair relationships and improve self-regulation? Could they be improved?
- ▶ What is the current level of understanding of trauma among families, school staff, and administrators in your school or community?
- ▶ What strengths in your community could be tapped to support students and staff with high levels of trauma?
- ▶ What additional information about trauma and its impact on the brain would be helpful?
- ▶ In the scenario described in this chapter, what more could be done for Sarah?

Key Terms

Self-regulation: The ability to manage one's emotions and behavior in accordance with the demands of the situation. It includes being able to resist highly emotional reactions to upsetting stimuli, to calm yourself down when you get upset, to adjust to a change in expectations, and to handle frustration without an outburst. It is a set of skills that enables children to direct their own behavior towards a goal despite the unpredictability of the world and our own feelings.

